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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,174	02/24/2004	Hironobu Saka	019970-011	9282

21839 7590 08/26/2004

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EXAMINER	
KRAMER, DEVON C	

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/784,174	SAKA, HIRONOBU
	Examiner	Art Unit
	Devon C Kramer	3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6/10/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1) Claims 1-5 are objected to because of the following informalities:

Claim 1 line 13, "the openings" should be –openings--;

Claim 13 line 5, "the closed ends" should be –closed ends--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3) Claims 1-3, 6-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6116384).

In re claims 1, 6 and 13, Matsumoto et al provides a disk brake comprising: a disk rotor (D); a pair of pads (6) with respective back plates (6a); a pressing device (Figure 1) arranged and constructed to press the pads against the disk rotor a shim (figure 2) disposed between the back plate of each pad and the pressing device and defining a space (11d) for storing a grease between the shim and the back plate the shim comprising: a first shim member (11) and a second shim (12) member overlaid with each other and disposed on the side of the back plate and the pressing device, respectively, so that the space is defined between the first shim member and the back plate; and storage regions (11d) defined within the first shim member throughout the

thickness of the first shim member in order to store and retain the grease (col. 4 lines 1-4); wherein: the storage regions are configured such that the grease substantially entirely covers the openings of the storage regions and is retained within the storage regions by the surface tension of the grease. Please note that Matsumoto et al is silent to the temperature range at which the grease is retained in the spaces.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have grease remain in the spaces by its surface tension at least when the temperature of the grease is within a range of 20 to 200 *C merely as a design choice depending on the environment of use and the type of grease used. Please note that different greases have different properties and viscosities. If grease were to seep out of the openings in Matsumoto et al it would render the invention inoperable, therefor it is advantageous for the grease used in Matsumoto to have a specific viscosity corresponding to the temperature range of the environment to remain in the opening.

In re claims 2, 7-8, see 11d.

In re claims 3 and 9, Matsumoto et al is silent to the width of the slits.

It would have been obvious to one of ordinary skill in the art to have provided the slits of Matsumoto with a width within a range of 0.5 to 2.0 mm since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

4) Claims 4-5 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6116384) in view of Suzuki et al (5975252).

In re claim 4 and 11, Matsumoto et al lacks the teaching of the storage regions being circular through holes.

Suzuki et al teaches storage regions shaped as circular through holes (31d).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the storage regions of Matsumoto with circular regions as taught by Suzuki et al as a design choice and to provide a shape which retains grease and is easily machined.

In re claims 5 and 12, Matsumoto et al as modified by Suzuki et al is silent to the diameter of the through holes.

It would have been obvious to one of ordinary skill in the art to have provided the storage areas of Matsumoto as modified by Suzuki et al with a diameter within a range of 0.5 to 2.0 mm since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

5) Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6116384) in view of Chen et al (6283258).

In re claim 10, Matsumoto et al lacks the teaching of the recesses extending along a substantially radial direction.

Chen et al teaches recesses (37) extending along a substantially radial direction.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the recesses of Matsumoto et al to extend in the radial direction merely to retain grease when the rotation of the disk provides a force to the pad.

Conclusion

6) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gerhardt et al, Biswas, Yano et al, Kawamura, Endo, and Kumamoto et al all provide brake pads with grease retaining structures.

7) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK

6/20/04